

1. Main technical characteristics

- Flow Rate up to 530 l/h
- Pressure up to 12 bar
- Mechanically actuated PTFE diaphragm
- Flow rate adjustment from 0 to 100%
- Stroke Rate: 58 / 78 / 116 / 156 strokes/minute
- Stroke Length: 2 / 4 / 6.4 / 7.4 mm
- Diaphragm Diameter: 65 / 96 / 124 / 140 mm
- Motor: 0.25 / 0.37 kW
- Maximum temperature of pumped liquid: 40 °C
- Maximum ambient temperature: 55 °C
- Stroke adjustment with locking system
- Enclosure Protection Class: IP55
- Material of Pump Head:
 - SS 316L
 - PVDF

2. General features

- The Kosmo Series dosing pumps offer a high level of reliability with outstanding value for applications up to 12 Bar and flow rates up to 530 l/h.
- A range of dosing pumps that are compact, lightweight, robust and simple designed for low discharge pressures, durability and cost effectiveness, mainly used in water treatment and in the food industry in clean-in-place applications. Designed to provide reduced overall operating costs over time, the mechanically-actuated PTFE diaphragm increases diaphragm life by eliminating the stresses inherent in most pump designs.
- Kosmo models are multipurpose pumps and can handle all known reagents. They are recommended for continuous service and can run dry without any damage to the pump.
- Kosmo pumps incorporate a variable eccentric system minimizing pulsation and shock.
- Kosmo dosing pumps consists of durable, metallic housing designed to withstand tough environments and suitable for a large number of industrial uses other than water treatment, such as the injection of reagents at medium pressure.
- Kosmo pumps have an adjustment of flow rate while running or stopped from 0 to 100%, with a maximum temperature of pumped liquid up to 40 °C aimed at delivering exceptional performance across a wide range of flow and pressure environments.

Kosmo MM1 Series - Mechanical Diaphragm Pump



3. Codification

KOSMO - KEY TO MODEL NUMBER												
	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10	Field 11	Field 12
	M	M1	A	065	C	21	A	4	0	0	0	0
Field 1	model											
Field 2	mechanism type											
Field 3	stroke length											
Field 4	diameter											
Field 5	stroke/min											
Field 6	pump head											
Field 7	motor power											
Field 8	motor type											
Field 9	customization											
Field 10	market											
Field 11	stroke reg.											
Field 12	optional											
Field 1	model	M Mechanical Return DIAPHRAGM										
Field 2	mechanism type	M1 Mechanical return MM1 M2 Mechanical return MM2										
Field 3	stroke length	Stroke length [mm] A 2 MM1 C 4 MM1 D 6.4 MM1 E 7.4 MM1 F 7 MM2 G 8 MM2 H 9 MM2 I 15 MM2										
Field 4	diameter	Diaphragm [mm] 065 65 MM1 096 96 MM1 124 124 MM1 / MM2 140 140 MM1 / MM2 157 157 MM2 179 179 MM2										
Field 5	stroke/min	Strokes / minute A 24:1 58 MM1 B 18:1 78 MM1 C 12:1 116 MM1 D 32:1 43 MM2 E 32:2 86 MM2 F 32:3 131 MM2 G 32:4 175 MM2										
Field 6	pump head	DIAPHRAGM - Standard Execution head diaphragm valve seat O-Ring 21 / 24 SS316L PTFE SS316L SS316L FPM / EPDM 41 / 44 PVDF PTFE CERAMIC PVDF FPM / EPDM										
Field 7	motor power	kW supply phase size 0 Without motor A 0.25 230/400 Vac 3 71-B5/ MM1 B 0.37 230/400 Vac 3 71-B5/ MM1 C 0.55 230/400 Vac 3 80-B5/ MM2 D 0.75 230/400 Vac 3 80-B5/ MM2 E 1.10 230/400 Vac 3 90S-B5/ MM2										
Using the 60 Hz 3phases motor the performances of the pumps will be as follows: Pressure: -20% - Flow Rate: +20%												
Field 8	motor type	0 Without motor 2 2/3 4 4/3 230/400Vac, 50/60Hz, TEFC (Totally Enclosed Fan-Cooled) 6 6/3 3 2/1 5 4/1 230Vac, 50Hz, TEFC (Totally Enclosed Fan-Cooled) 7 6/1										
Field 9	customization	0 Standard (or without motor) I Inverter S Forced Ventilation X Flame-Proof (Exd II B T4) V Flame-Proof (Exd II B T4) + Forced Ventilation										
Field 10	market	0 Standard 6 Asian market 7 Brazilian market 8 Chinese market										
Field 11	stroke reg.	0 Manual A										
Field 12	optional	0 Standard A										

4. Specification

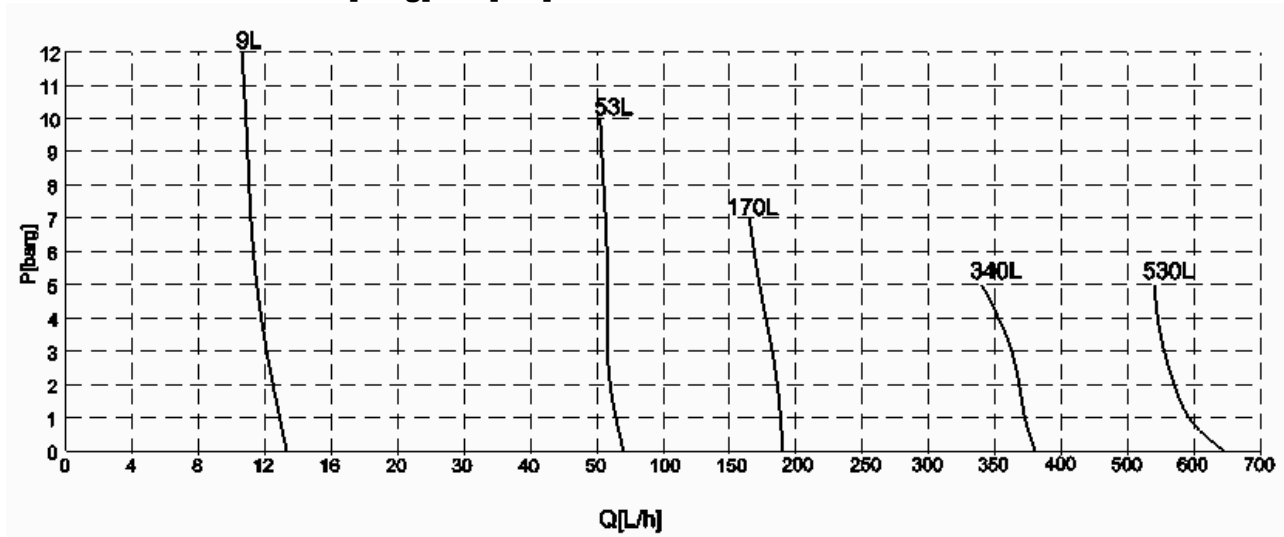
KOSMO MM1 Series -EQUIPPED WITH STANDARD MOTOR										
Model	Diameter (mm)	Stroke Length (mm)	Stroke Rate	Flow Rate [l/h]	Max Pressure (bar)	Connections		Motor kW/pole	Gross Weight (Kg)	Cardboard box L W H (mm)
						SS316L	PVDF			
MM1A065C**A40000	65	2	116	9	12	BSPf 1/4"	8*12 PE hose	0.25/4	16	450 X 300 X 550
MM1C096B**A40000	96	4	78	53	10	BSPf 3/8"	DN10			
MM1D124B**B40000	124	6,4	78	170	7	BSPf 3/4"	DN20	0.37/4	20	
MM1D124B**B20000								0.37/2		
MM1E140B**B20000	140	7,4	156	340	5	BSPf 1"	DN25	0.37/2		
								530		

- 1) (**) Available wetted parts: SS316L (code 21; 24) and PVDF (code 41; 44) ;
- 2) In addition to the STD motor, it can be equipped with VSD motor (Variable Speed Drive) or Flame-Proof motor (Exd II B T4);
- 3) Tested with water @ 20°C, @ 50 Hz; multiply by K=1.2 for flow rate values @ 60Hz.

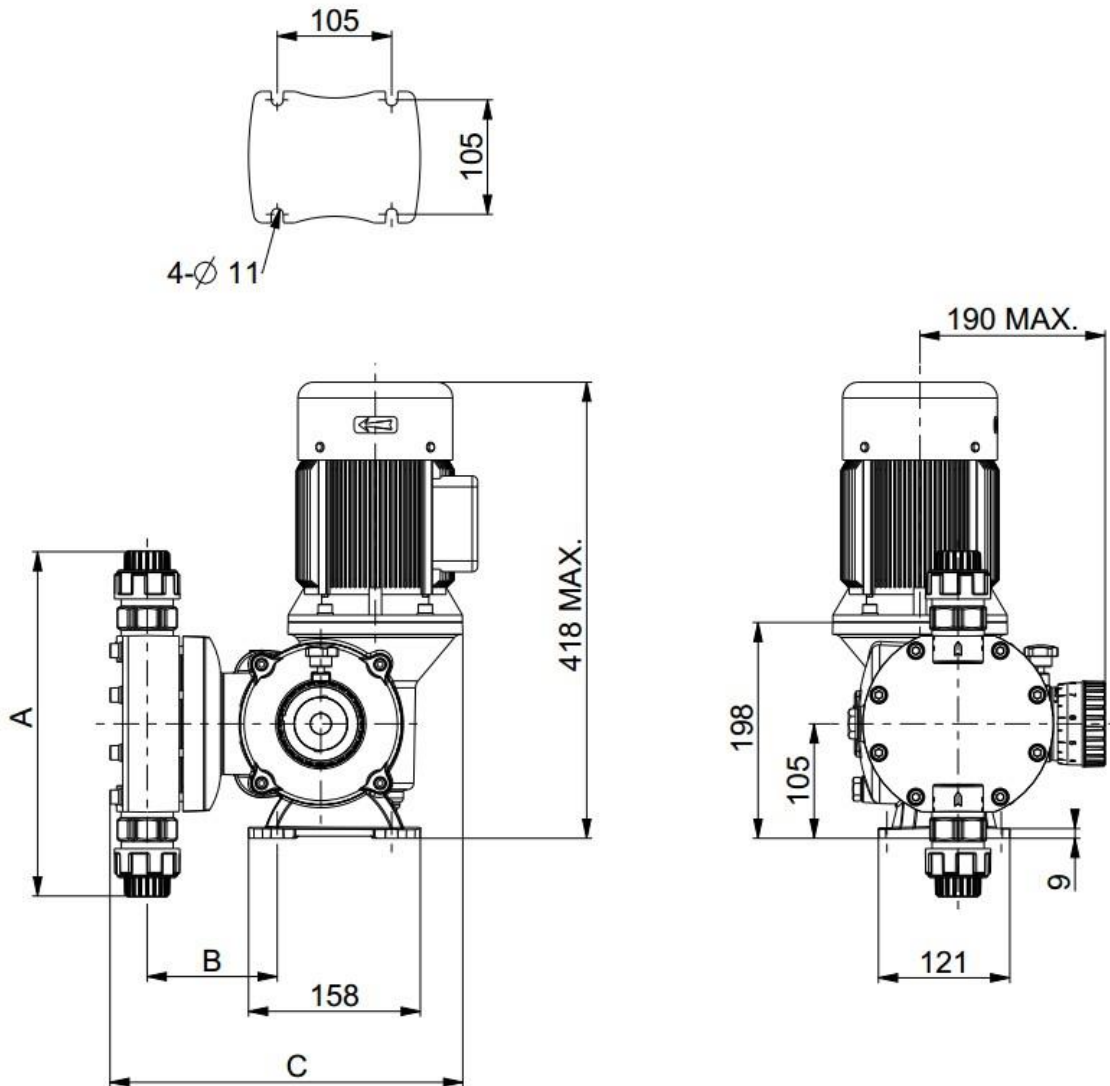
5. Liquid End Material

Material	Liquid End Body			
	21	41	24	44
Pump Head	SS 316L	PVDF	SS 316L	PVDF
Diaphragm	PTFE		PTFE	
Seal	FPM		EPDM	
Ball	SS 316L	Ceramic	SS 316L	Ceramic
Ball Seat		PTFE		PTFE

6. Performance curve P [barg] - Q [L/h]



7. Installation Drawing



MM1 Pump Head Material	Diaphragm dia. 65mm				Diaphragm dia. 96mm				Diaphragm dia. 124mm				Diaphragm dia. 140mm			
	Connection	A	B	C	Connection	A	B	C	Connection	A	B	C	Connection	A	B	C
PVDF	8 x 12 PE hose	166	104	303	BSPf 3/8"	222	108	301	BSPf 3/4"	293	118	322	BSPf 1"	316	119	323
SS316L	BSPf 1/4"	175	108	294	BSPf 3/8"	167	107	293	BSPf 3/4"	216	113	306	BSPf 1"	251	120	319

8. Painting requirements

The anti-corrosion painting process for dosing pump applications requires an entire coating thickness of between 0.06mm and 0.20mm.